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33.1
Floodplains and Wetlands

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New document or new requirements

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33.1

Floodplains and Wetlands*

Contents

1.0 Introduction 1
1.1 Regulatory Summary 2
2.0 Applicability to LLNL Activities 3
3.0 Process for Compliance 4
4.0 Work Standards 4
4.1 Work Smart Standards 4
4.2 Other Sources 4
5.0 Resources for More Information 5
5.1 LLNL Contacts 5

* Minor revision

33.1

Floodplains and Wetlands

1.0 Introduction

A floodplain is defined as the valley floor adjacent to the incised channel, which may be inundated during high water (Linsley, Kohler, and Paulhus, 1982). Based on Executive Order 11988, Floodplain Management (May 24, 1977), federal agencies must evaluate actions taken in a floodplain.

A Floodplain and Wetlands Assessment is prepared pursuant to the Department of Energy (DOE) regulation, "Compliance with Floodplain / Wetlands Environmental Review Requirements" (10 CFR 1022, 1979). There must be a floodplain assessment (a document sent to the public) for nearly all proposed actions inside a 100-year floodplain. Normally, the floodplain assessment is done within the National Environmental Policy Act (NEPA) Environmental Assessment or Environmental Impact Statement, in which case separate public notice and review are not required.

Wetlands generally include swamps, marshes, bogs, and similar areas. Commonly pictured as coastal marshes or swamps, wetlands have the broader regulatory definition of "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR § 328.3[b])." In addition to their aesthetic beauty, wetlands are valued for their ability to purify water, recharge ground water, and prevent flooding and erosion. Wetlands also provide nesting, spawning, rearing, and resting sites for many aquatic and land species, including numerous sensitive species. [See Document 33.2, "Sensitive and Protected or 'Special-Status' Species," in the *Environment, Safety, and Health (ES&H) Manual* for further discussion.]

In years past, wetlands were regarded as wastelands, and many were drained or filled in the course of development. In fact, California has lost more than 90 percent of its original wetland acreage to human activities. In order to preserve the remaining wetlands, Federal acts and executive orders (and implementing regulations restricting development of wetlands and requiring minimization of impacts to wetlands) have been established, and the DOE has adopted a policy of minimizing "the destruction, loss, or degradation of wetlands." It is important to consider these laws, executive orders, and regulations when planning projects that may impact wetlands.

1.1 Regulatory Summary

The most wide-reaching wetlands program is administered by the U.S. Army Corps of Engineers (Corps), which regulates discharges of dredged or fill material to, and placement of structures in, wetlands. This program, described in more detail on the following page, requires parties wishing to develop wetland areas to obtain a permit. Before granting a permit, the Corps may require measures to be taken to mitigate the impact to wetlands. Special DOE policies (e.g., requiring floodplain/wetland assessments), which further limit the extent to which federal projects may destroy or degrade wetlands, also apply.

The Corps derives the regulatory authority to administer its wetlands protection program from Section 404 of the Clean Water Act. The program is overseen by the U.S. Environmental Protection Agency (EPA). Other agencies such as the U.S. Fish and Wildlife Service (USFWS) and California State Water Resources Control Board (WRCB) may make comments that affect the permitting decision. It is important to note that the Section 404 wetlands permitting process is time consuming, typically taking one year (and sometimes longer) to complete.

Certain types of projects do not require individual Section 404 permits. Projects with minimal impact as specified in the regulations (such as maintaining drainage ditches, maintaining currently serviceable structures, and very small projects involving less than 1.0 acre of wetlands) typically are eligible for nationwide permits instead of individual permits. It is prudent to provide a courtesy notification to the Corps for all projects. Even if a project qualifies for a general permit, it still will be required to obtain water quality certification from the State WRCB or a waiver from the Regional Water Quality Control Board before proceeding. Also, other state and local programs that may affect wetlands such as the streambed alteration agreement program administered by the California State Department of Fish and Game may impose additional requirements on a project. LLNL's Operations and Regulatory Affairs Division (ORAD) provides all required notifications and submits necessary applications for each project.

All DOE actions must comply with the DOE policy regarding floodplains and wetlands as stated in its regulations found in 10 CFR, Part 1022, "Compliance with Floodplain/Wetlands Environmental Review Requirements." The DOE regulations were put in place to implement Executive Orders 11990, "Protection of Wetlands," 1977, and 11988, "Floodplain Management," 1977, which require federal agencies to consider adverse effects on wetlands and floodplains during decision-making. For certain proposed actions that will affect floodplains/wetlands, the DOE must prepare a Floodplain/Wetland Assessment that includes an evaluation of the effect of the proposed action on these resources and an evaluation of less-harmful alternatives to the proposed action. Typically, DOE's wetlands policy is satisfied by incorporating the Floodplain/Wetlands Assessment into documents prepared in compliance with the

National Environmental Policy Act (discussed in Document 3.6, "Environmental Planning," in the *ES&H Manual*).

2.0 Applicability to LLNL Activities

The DOE wetlands/floodplains regulations and federal and state laws described above are pertinent during the planning of projects that impact the wetlands that exist on the LLNL Livermore site and Site 300. Because of this, ample time should be allowed to address the permitting issues if a project will impact wetland areas. Permitting may take from one to three years. Small areas (1.96 acres in total) of wetlands supporting salt grass and cattails are present on the northern perimeter of the LLNL Livermore site along Arroyo Las Positas, and additional small wetlands have developed along some drainage channels throughout the site. Arroyo Las Positas and its wetlands provide habitat for the California red-legged frog, a federally threatened species. As a result, a formal consultation with the USFWS was undertaken in 1997 before arroyo flood capacity maintenance was performed. (See Document 33.2 for additional discussion.) However, because several of these areas consist of wetlands growing in man-made drainage channels, the Corps may determine that it will not take action, but the state may still regulate these wetlands.

There are more extensive areas of wetlands on the relatively undeveloped Site 300. The Site 300 wetlands cover a total of 6.76 acres and can be found in the bottoms of canyons, in areas affected by building runoff, and in three seasonal pools. The requirements applied to the wetlands at Site 300 may be especially stringent because the wetlands can provide habitat for the tiger salamander and red-legged frog (federal candidate and federally threatened species, respectively). Based on sampling conducted in 1995, federally listed fairy-shrimp species, which occur in seasonal wetlands, are not present in Site 300 pools. (For further discussion of endangered species, Document 33.2.)

An example is the Arroyo Las Positas maintenance project where, because of the recession of the Tulloch rule dealing with incidental fill, the Corps decided it would not take action for the proposed work. However, the California Department of Fish and Game still issued a streambed alteration agreement and the San Francisco Bay Regional Water Quality Control Board chose to issue Waste Discharge Requirements for the proposed work. In addition, because the wetlands provided habitat for the red-legged frog and posed a take under the Endangered Species Act, a Biological Opinion of no jeopardy was issued.

The 100-year floodplain at the LLNL Livermore site is limited to the Arroyo Las Positas and Arroyo Seco channels, plus a small area near the East Gate at Greenville Road. At Site 300, the nearest 100-year floodplain is within Corral Hollow Creek, south of the site.

3.0 Process for Compliance

The most important part of complying with these regulations is to be aware of the wetlands that exist both on the Livermore site and on Site 300, and to recognize that 100-year floodplains exist at the LLNL Livermore site and adjacent to Site 300. If you believe that a project you are planning may affect wetlands or floodplains, or would be within 50 feet of the Arroyo Las Positas channel or drainage tributaries of the Drainage Retention Basin on the LLNL Livermore site, notify the ES&H Team environmental analyst. Projects affecting areas larger than 1.0 acre of these wetlands may also require permits from the Corps, the California State Department of Fish and Game, the State WRCB, or the Regional Water Quality Control Board; even smaller projects should be brought to the attention of your environmental analyst from the ES&H Team because state, federal, and DOE regulations may apply. As with many permitting programs, early notification is crucial because the assessment and permitting processes can take from months to years.

4.0 Work Standards

4.1 Work Smart Standards

10 CFR 1022, Compliance with Floodplain / Wetlands Environmental Review Requirements

33 CFR 320-323, 328, 330, Army Corps of Engineers Regulations for Protection of Waters of the US and Nationwide Permit Program

33 USC § 1311, 1341, 1344, Clean Water Act Dredge and Fill [and related §§ 301, 401, 404]

23 CCR §§ 3855-3859, Water Quality Certification

CA Fish and Game Code §§ 1601-1607 (except 1606), Fish and Wildlife Protection and Conservation

CA Water Code § 13000 et seq., Porter Cologne Water Quality Control Act

CA Water Code §§ 13376-13381, Discharging pollutants or dredged or fill material

4.2 Other Sources

33 CFR § 328.3(b)

Executive Order 11988, Floodplain Management, 1977

Executive Order 11990, Protection of Wetlands, 1977

California Council of Civil Engineers and Land Surveyors, *Summary of Legal and Regulatory Requirements Affecting Section 404 Permits, Including Wetlands*, 1991

California Environmental Law, Part F. Wetlands Regulation in California, 1993

Linsley, R.K., M.A. Kohler, and J.L.H. Paulhus, *Hydrology for Engineers*, 3d ed., New York, McGraw-Hill, 1982

Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines, 1990

U.S. Department of Energy and University of California, *Final Environmental Impact Statement and Environmental Impact Report for Continued Operation of Lawrence Livermore National Laboratory and Sandia National Laboratories,* Livermore, 1992

5.0 Resources for More Information

5.1 LLNL Contacts

Your contact at LLNL for help with wetlands issues is your ES&H Team environmental analyst. Your analyst can help or direct you to the appropriate personnel in EEG or the Water Guidance and Monitoring Group (WGMG).